

Claims

1. A mask vapor deposition method comprising:

a step of attracting a subject for deposition using electrostatic attraction;

a step of aligning the attracted deposition subject with a deposition mask; and

a step of evaporating a deposition material to deposit the material on the deposition subject.

2. A mask vapor deposition method comprising:

a step of aligning a subject for deposition with a deposition mask having an electrostatic chucking function;

a step of attracting the deposition subject to the deposition mask using electrostatic attraction; and

a step of evaporating a deposition material to deposit the material on the deposition subject.

3. A mask vapor deposition system comprising:

an electrostatic chucking mechanism for attracting a subject for deposition using electrostatic attraction;

an deposition mask, brought into close contact with a face of the deposition subject, for depositing a deposition material in a predetermined pattern, the face being reverse to that of the deposition subject attracted by the electrostatic chucking mechanism;

an evaporation source for evaporating the deposition material; and

a vacuum chamber,

wherein the mechanism, mask, and source are at least placed in the vacuum chamber.

4. The mask vapor deposition system according to Claim 3, further comprising a ferromagnetic means for bringing the deposition subject into close contact with the deposition mask prepared using a magnetic material.

5. A mask vapor deposition system comprising:

a deposition mask for attracting a subject for deposition using electrostatic attraction and depositing a deposition material on the deposition subject in a predetermined pattern;

an evaporation source for evaporating the deposition material; and

a vacuum chamber,

wherein the mask and source are at least placed in the vacuum chamber.

6. A process for manufacturing a deposition mask, comprising:

a step of forming an insulating layer on a semiconductor substrate;

a step of providing a metal layer functioning as electrodes, on predetermined portions of the insulating layer;

a step of forming perforations for deposition, in predetermined areas of the semiconductor substrate; and

a step of further forming another insulating layer on the metal layer.

7. A deposition mask comprising a semiconductor substrate having perforations for deposition, in predetermined areas of the substrate, wherein the deposition mask attracts a subject for deposition using electrostatic attraction by supplying electric charges.

8. A deposition mask comprising a wired substrate and a single semiconductor substrate or a plurality of semiconductor substrates having perforations for deposition, in predetermined areas thereof, wherein the semiconductor substrate or semiconductor substrates are bonded to the wired substrate so as to function as electrodes for attracting a subject for deposition using electrostatic attraction.

9. The deposition mask according to Claim 7 or 8, wherein the semiconductor substrate or semiconductor substrates are made of silicon.

10. The deposition mask according to Claim 7 or 8, further comprising electrodes having a positive or a negative polarity alternately arranged on the semiconductor substrate.

11. The deposition mask according to Claim 10, wherein the electrodes are arranged so as to form an interdigital pattern.

12. The deposition mask according to any one of Claims 7 to 11, wherein a portion of the mask to be brought into contact with the subject for deposition is covered with silicon dioxide.

13. An apparatus for manufacturing a display panel,
comprising:

an electrostatic chucking mechanism for attracting a glass substrate that is a subject for deposition using electrostatic attraction;

a deposition mask to be brought into close contact with a face of the glass substrate in order to deposit an organic material, which is used for forming electroluminescent elements on the glass substrate in a predetermined pattern, the face being reverse to that of the glass substrate attracted by the electrostatic chucking mechanism;

an evaporation source for evaporating the organic material; and

a vacuum chamber,

wherein the mechanism, mask, and source are at least placed in the vacuum chamber.

14. A display panel manufactured by the display panel-manufacturing apparatus according to Claim 13.

15. An electronic device comprising the display panel according to Claim 14 and having a display function.